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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,522	02/15/2002	Yong Ma	270/205	3498

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EXAMINER

JACKSON, CORNELIUS H

ART UNIT PAPER NUMBER

2828

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,522

Applicant(s)

MA, YONG

Examiner

Cornelius H. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment

1. Acknowledgment is made that applicant's Amendment, filed on 16 June 2003, has been entered. Upon entrance of the Amendment, claims 1, 2, 4, 5, 7-11 and 13-16 were amended and claims 23-29 were cancelled. Claims 1-22 are now pending in the current application.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 7, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Grubb et al. (6344925). Regarding claim 1, Grubb et al. disclose a wavelength tunable laser **Fig. 6a** comprising a laser diode **47** and a wavelength selective external cavity **52** including a resonator **48** formed from electro-optic material and having an adjustable refractive index induced tunable resonance wavelength and first **50_{i3-4}** and second **50_{o3-4}** waveguides optically coupled to the resonator **48** along first and second coupling regions **46_i/46_o**, wherein light traveling through the waveguides having a wavelength matching a tuned resonance wavelength of the resonator is coupled into the resonator through evanescent wave coupling, the first and second waveguides being parallelly disposed in a lateral direction adjacent and extending beyond the first and second coupling regions **46_i/46_o**, the first waveguide **50_{i3}** having a first end optically coupled to the laser diode **47**, and the second waveguide **50_{o4}** having one end optically coupled to a reflector **54_H**, see col. 3, lines 23-26, col. 4, line 61-col. 5, line 15, col. 6, lines 27-35 and col. 7, line 50-col. 8, line 2.

Regarding claims 2, 7, 19 and 20, Grubb et al. disclose all the stated limitations, see **Fig. 6a**, col. 3, lines 23-26, col. 4, line 61-col. 5, line 15, col. 6, lines 27-35 and col. 7, line 50-col. 8, line 2.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6, 8-18, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grubb et al. (6344925) in view of Ho (6009115). Grubb et al., as applied to claims 1, 2, 7, 19-21 and 23-25 above, teach all the stated limitations, except for the first **50₁₃₋₄** and second **50₀₃₋₄** waveguides and the resonator **48** are formed on a single substrate comprising a plurality of layers. Regarding claims 3 and 26, Ho teaches the first **14** and second **16** waveguides and the resonator **12** are formed on a single substrate comprising a plurality of layers, **see col. 4, line 62-col. 5, line 25 and col. 10, line 47- col. 11, line 7**. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place all the elements of the wavelength tunable laser of Grubb et al. (since Grubb teach both CRR and semiconductor devices, **see col. 3, lines 23-24**) on a single substrate to keep the arrangement constant, to form an on-chip integration with other semiconductor devices and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 4 and 8, Ho teaches a separation layer, **see col.4, lines 28-41**.

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Regarding claims 5 and 6, Ho teaches how the waveguides are formed, **see col. 8, line 33-col. 9, line 25**. Also, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 9, Ho teaches the resonator comprises a plurality of resonators, **see Fig. 9**.

Regarding claim 10, Ho teaches the position of the lens, **see Fig. 10 and col. 6, lines 54-60**.

Regarding claim 11, Grubb et al. teach the all stated limitations, **see Fig. 6a**.

Regarding claim 12, Grubb et al. and Ho teach all the stated limitations, **see rejection to claim 3 above**.

Regarding claim 13, Grubb et al. teach the all stated limitations, **see col. 8, lines 15-21**.

Regarding claim 14, Ho teaches all the stated limitations, **see rejection to claim 10 above**.

Regarding claim 15, It would have been an obvious matter of design choice to place a reflective coating a the end facet of the waveguide, since applicant has not disclosed that the coating solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a reflective mirror.

Regarding claims 16 and 17, Ho teaches all the stated limitations, **see col. 9, lines 34-52**.

Regarding claim 18, Grubb et al. teach the all stated limitations, **see col. 8, lines 35-48.**

Regarding claims 21 and 22, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is (571)272-1942. The examiner can normally be reached on 8:00 - 5:00, Monday - Friday.

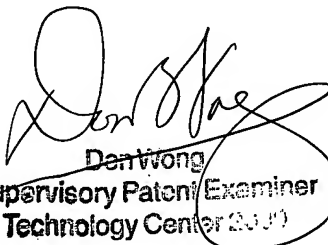
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (571)272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHJ

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